



DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2023-0668; Project Identifier AD-2023-00199-R]

RIN 2120-AA64

Airworthiness Directives; Various Helicopters

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Notice of proposed rulemaking (NPRM).

SUMMARY: The FAA proposes to supersede Airworthiness Directive 2021-23-13, which applies to all helicopters equipped with a radio (also known as radar) altimeter. AD 2021-23-13 requires revising the limitations section of the existing rotorcraft flight manual (RFM) for your helicopter to incorporate limitations prohibiting certain operations requiring radio altimeter data when in the presence of 5G C-Band interference in areas as identified by Notices to Air Missions (NOTAMs). Since the FAA issued AD 2021-23-13, the FAA determined that additional limitations are needed due to the continued deployment of new 5G C-Band base stations whose signals are expected to cover most of the contiguous United States at transmission frequencies between 3.7-3.98 GHz. This proposed AD would require revising the limitations section of the existing RFM to incorporate limitations prohibiting certain operations requiring radio altimeter data, due to the presence of 5G C-Band interference. The FAA is proposing this AD to address the unsafe condition on these products.

DATES: The FAA must receive comments on this proposed AD by [INSERT DATE 30 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

ADDRESSES: You may send comments, using the procedures found in 14 CFR 11.43 and 11.45, by any of the following methods:

- Federal eRulemaking Portal: Go to [regulations.gov](https://www.regulations.gov). Follow the instructions for submitting comments.

- Fax: 202-493-2251.

- Mail: U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE, Washington, DC 20590.

- Hand Delivery: Deliver to Mail address above between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.

AD Docket: You may examine the AD docket at [regulations.gov](https://www.regulations.gov) under Docket No. FAA-2023-0668; or in person at Docket Operations between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The AD docket contains this NPRM, any comments received, and other information. The street address for Docket Operations is listed above.

FOR FURTHER INFORMATION CONTACT: David Swartz, Continued Operational Safety Technical Advisor, COS Program Management Section, Operational Safety Branch, FAA, 222 W. 7th Ave, M/S #14 Anchorage, AK 99513; phone: 817-222-5390; email: operationalsafety@faa.gov.

SUPPLEMENTARY INFORMATION:

Comments Invited

The FAA invites you to send any written relevant data, views, or arguments about this proposal. Send your comments to an address listed under ADDRESSES. Include “Docket No. FAA-2023-0668; Project Identifier AD-2023-00199-R” at the beginning of your comments. The most helpful comments reference a specific portion of the proposal, explain the reason for any recommended change, and include supporting data. The FAA will consider all comments received by the closing date and may amend the proposal because of those comments.

Except for Confidential Business Information (CBI) as described in the following paragraph, and other information as described in 14 CFR 11.35, the FAA will post all comments received, without change, to regulations.gov, including any personal information you provide. The agency will also post a report summarizing each substantive verbal contact received about this proposed AD.

Confidential Business Information

CBI is commercial or financial information that is both customarily and actually treated as private by its owner. Under the Freedom of Information Act (FOIA) (5 U.S.C. 552), CBI is exempt from public disclosure. If your comments responsive to this NPRM contain commercial or financial information that is customarily treated as private, that you actually treat as private, and that is relevant or responsive to this NPRM, it is important that you clearly designate the submitted comments as CBI. Please mark each page of your submission containing CBI as “PROPIN.” The FAA will treat such marked submissions as confidential under the FOIA, and they will not be placed in the public docket of this NPRM. Submissions containing CBI should be sent to David Swartz, Continued Operational Safety Technical Advisor, COS Program Management Section, Operational Safety Branch, FAA, 222 W. 7th Ave, M/S #14 Anchorage, AK 99513; phone: 817-222-5390; email: operationalsafety@faa.gov. Any commentary that the FAA receives that is not specifically designated as CBI will be placed in the public docket for this rulemaking.

Background

The FAA issued Airworthiness Directive (AD) 2021-23-13, Amendment 39-21811 (86 FR 69992, December 9, 2021) (AD 2021-23-13), for all helicopters equipped with a radio altimeter. AD 2021-23-13 was prompted by a determination that radio altimeters cannot be relied upon to perform their intended function if they experience interference from wireless broadband operations in the 3.7-3.98 GHz frequency band (5G

C-Band). AD 2021-23-13 requires revising the limitations section of the existing RFM to incorporate limitations prohibiting certain operations requiring radio altimeter data when in the presence of 5G C-Band interference as identified by NOTAMs. The agency issued AD 2021-23-13 because radio altimeter anomalies that are undetected by the automation or pilot, particularly close to the ground, could lead to loss of continued safe flight and landing.

On the same day, the FAA also issued AD 2022-23-12, Amendment 39-21810 (86 FR 69984, December 9, 2021) (AD 2021-23-12), to correct the same unsafe condition on, and require similar operating limitations for, all transport and commuter category airplanes equipped with a radio altimeter.

Actions Since AD 2021-23-13

Rotorcraft Capability and Alterations: Since issuing AD 2021-23-13 and AD 2021-23-12, the FAA has reviewed data from alternative method of compliance (AMOC) requests, demonstrating that these radio altimeters can be relied upon to perform their intended function when operating beyond a certain protection radius around 5G C-Band transmitters. The iterative AMOC process allowed the FAA to gain insight into 5G C-Band transmission impacts in a progressively more sophisticated manner. At first, the FAA made conservative assumptions about the potential for impact on radio altimeters from 5G C-Band transmissions and applied them to all airspace. During the FAA's initial analyses of AMOC requests, the FAA looked to protect against 5G C-Band interference during critical operations that rely on radio altimeters, by prohibiting these operations within the vicinity of known 5G C-Band emitters. After some time and an improved understanding of the 5G C-Band signals and their effects on specific radio altimeters, the FAA was able to reduce the protected area around the 5G C-band emitters to protect rotorcraft.

The FAA received and reviewed many more AMOC proposals from transport category airplane operators for AD 2021-23-12 than from helicopter operators for AD 2021-23-13. Some of the radio altimeters used on rotorcraft are the same model as, or similar to, the radio altimeters installed on transport category airplanes. As a result, the AMOC process for AD 2021-23-12 and AD 2021-23-13 also provided data about the varying levels of interference tolerance for a majority of radio altimeters on the market, allowing the FAA to understand the overall susceptibility to interference of the existing fleet of rotorcraft. In addition, the FAA learned about the aircraft alterations that can be accomplished quickly to improve a radio altimeter's tolerance to transmissions in adjacent or nearby spectrum bands. Now that the FAA better understands the performance of specific radio altimeters and the means to make them more tolerant of transmissions in adjacent or nearby spectrum bands, the FAA is proposing to retain the existing prohibitions in AD 2021-23-13 with an option to upgrade to a radio altimeter tolerant rotorcraft to avoid the prohibitions.

5G Compatibility: AMOCs allowing operations otherwise prohibited by AD 2021-23-13 were based on voluntary operational mitigations undertaken by AT&T and Verizon, 5G C-Band licensees. The FAA, AT&T, and Verizon have collaborated extensively to ensure 5G C-Band radio frequency transmissions and rotorcraft operations can safely co-exist. In early January 2022, the FAA progressively tailored runway safety zones around airports to envelop only the airspace areas where critical phases of flight occur. Although these tailored runway safety zones around airports primarily benefited transport and commuter airplane operations, they also benefited rotorcraft operating at those airports. This collaborative work has allowed safe rotorcraft operations to continue in the short term.

Update to Safety Determination: The FAA's initial determination that radio altimeters cannot be relied upon to perform their intended function if they experience interference from wireless broadband operations in the 5G C-Band remains unchanged. Unlike the

Terrain Awareness and Warnings Systems (TAWS) in transport airplanes, most Helicopter Terrain Avoidance Warning Systems (HTAWS) do not rely on radio altimeter inputs, but rather use radar altimeter data for vertical situational awareness in low visibility conditions (i.e., snow and dust blown up by rotor down wash) and as an input into several procedures and automated system. This means that a 5G C-Band interference event in most helicopters does not result in an erroneous HTAWS alert.

The FAA is concerned that 5G C-Band interference events will occur more frequently as telecommunication companies continue to deploy 5G C-Band services throughout the country and the safety benefit from the use of radio altimeters in helicopters will be lost. On January 11, 2023, the FAA published an NPRM that would supersede AD 2021-23-12 for transport and commuter category airplanes equipped with a radio altimeter (88 FR 1520) (“transport NPRM”). The transport NPRM proposed, in part, to require that after February 1, 2024, operations under part 121 must be conducted with a radio altimeter tolerant airplane. This proposed requirement was prompted by the FAA’s determination that erroneous system warnings due to a malfunctioning radio altimeter will lead to flightcrew desensitization to system warnings. The FAA has assessed the cumulative effects of increasing numbers of erroneous warnings for rotorcraft, such as the display of erroneous vertical position input to the pilot, and determined that it has not yet risen to the level of an unsafe condition. For this reason, the FAA is not proposing to mandate equipage of radio altimeters meeting certain tolerance requirements for all helicopters, as proposed in the transport NPRM for airplanes.

Why New Corrective Action is Needed: The FAA expects an increase in the number of 5G C-Band base stations around airports in the national airspace system (NAS) and expects these stations to transmit in the entire 5G C-Band frequency band (from 3.7 to 3.98 GHz). Since the FAA issued AD 2021-23-13, which focused solely on a limited airspace environment, 5G C-Band base stations have increasingly begun transmission in

other areas of the country. Whereas 5G C-Band transmissions were initially limited to 3.7 to 3.8 GHz, these transmissions have also begun to expand to 3.8 to 3.98 GHz, and the FAA expects deployment at the higher end of the frequency range to expand after July 1, 2023.¹ These higher frequencies are nearer to the spectrum allocation where radio altimeters operate (4.2 to 4.4 GHz), which means that the potential for interference to radio altimeters from in-band and spurious² emissions may be more likely. In addition, the FAA expects approximately 19 additional telecommunication companies in addition to AT&T and Verizon will begin transmitting in the C-Band at some point after June 2023.³ As the 21 telecommunication companies authorized to transmit 5G C-Band continue to expand transmissions throughout the country, using NOTAMs to identify affected areas and assessing proposed AMOCs will become untenable. NOTAMs are temporary means of disseminating information until the information can be publicized by other means. Given 5G C-Band signals are not expected to be temporary and that 5G C-Band signals will cover the contiguous U.S., NOTAMs are no longer the best means of communicating the location of the 5G C-Band environment. In addition, given the information gleaned over the past year, the FAA is now able to identify the conditions under which radio altimeters can be relied on to perform their intended function in the presence of a 5G C-Band environment. Therefore, case-by-case AMOC approvals that allow performing certain operations otherwise prohibited by an AD are no longer the most efficient way for helicopter operators to show that their radio altimeters perform their intended function in the 5G C-Band environment.

Determination of Rotorcraft Radio Altimeter Tolerance Requirements: The FAA is proposing interference tolerance requirements for radio altimeters that can be used across

¹ FCC licenses authorized 5G transmissions from 3.7 to 3.98 GHz.

² The tolerance to 5G spurious emissions is the level of aggregate interference in the radio altimeter band below which the installed radio altimeter system will meet its performance standards and perform its intended function.

³ The additional 19 telecommunications companies will have access to the FCC-licensed spectrum after current users vacate use of the frequencies.

the affected fleet. Rotorcraft meeting these proposed minimum performance levels would be allowed to perform the prohibited operations in the contiguous U.S. airspace and would no longer be required to include the RFM limitations specified in AD 2021-23-12. After July 1, 2023, rotorcraft that do not meet the proposed minimum performance levels would be subject to the prohibited operations.

The FAA determined the proposed interference tolerance requirements by using the fuller understanding of specific radio altimeter capabilities the FAA gained during the AMOC process for AD 2021-23-12 and AD 2021-23-13. This process revealed the radio altimeter modifications that would not require a substantial system redesign, allowing aircraft operators to readily replace radio altimeters or install filters that allowed the aircraft to operate safely in a mitigated 5G environment.

The interference tolerance requirements are represented by a power spectral density (PSD) curve. The PSD curve, as depicted in figure 1 to paragraph (g)(1) of this proposed AD, represents the height over the ground and received power from a 5G C-Band emitter, at or below which the radio altimeter is expected to function reliably, measured in decibel-milliwatts (dBm) per megahertz (MHz). For purposes of this proposed AD, a “radio altimeter tolerant rotorcraft” is one for which the radio altimeter, as installed, demonstrates tolerance to radio altimeter interference at or above PSD curve threshold specified in figure 1 to paragraph (g)(1) of this proposed AD. A radio altimeter tolerant rotorcraft also demonstrates tolerance to an aggregate spurious emission level of -42 dBm/MHz in the 4200-4400 MHz radio altimeter band. For purposes of this proposed AD, a “non-radio altimeter tolerant rotorcraft” is one for which the radio altimeter, as installed, does not demonstrate those tolerances. Operators will have the option to upgrade to a radio altimeter tolerant rotorcraft if they wish to avoid the prohibitions in this proposed AD. Some operators may need to install filters between the radio altimeter and antenna to increase a radio altimeter’s tolerance. For others, the addition of a filter

will not be sufficient to address interference susceptibility; therefore, the radio altimeter will need to be replaced with an upgraded radio altimeter. The FAA has determined that radio altimeter tolerant rotorcraft are not expected to experience interference during a critical phase of flight in the contiguous U.S. airspace.

Areas of Operation: Over the past year, the FAA and the aviation industry, using data voluntarily provided by AT&T and Verizon, have identified maximum power levels for 5G C-Band transmissions that would permit safe aircraft operations. This data includes 5G C-Band tower or antenna locations, fundamental transmission power levels, and antenna height. The FAA has found that rotorcraft meeting the proposed standards as represented by the PSD curve can safely perform the prohibited operations specified in this proposed AD. These operations are safe for radio altimeter tolerant rotorcraft to perform within the contiguous U.S. airspace as long as telecommunication companies transmit at parameters under the current voluntary agreements with the FAA and FCC.

Compatibility with 5G C-Band Providers: The FAA has determined that any U.S. 5G C-Band provider that maintains the mitigated actions will not have an effect on the safety of rotorcraft with radio altimeters that meet the interference tolerance requirements. The FAA will assess the effects of any changes to transmission parameters in the contiguous U.S. airspace to determine whether they would result in a hazard to air navigation. If the transmission changes negatively affect the safe operation of a radio altimeter tolerant rotorcraft, the FAA will re-evaluate the risks and determine if further rulemaking is warranted.

Therefore, the FAA has determined that an unsafe condition exists when performing certain operations in the presence of 5G C-Band transmissions affecting the proper function of radio altimeters. For that reason, operators would be required to revise their existing RFM to prohibit these operations unless operating a radio altimeter tolerant rotorcraft. This proposed requirement would take effect on July 1, 2023.

FAA's Determination

The FAA is issuing this NPRM after determining that the unsafe condition described previously is likely to exist or develop on other products of the same type design.

Proposed AD Requirements in this NPRM

For rotorcraft with radio altimeters that meet the proposed interference tolerance requirements, this proposed AD would terminate the operational limitations imposed by AD 2021-23-13 with no further action.

For rotorcraft with radio altimeters that do not meet the proposed interference tolerance requirements, this proposed AD would retain the requirement in AD 2021-23-13 to revise the existing RFM to incorporate limitations prohibiting the following operations in the presence of 5G C-Band wireless broadband interference as identified by NOTAM (NOTAMs will be issued to state the specific airports where the radio altimeter is unreliable due to the presence of 5G C-Band wireless broadband interference) until June 30, 2023. On or before June 30, 2023, this proposed AD would also require, for non-radio altimeter tolerant rotorcraft, revising the existing RFM to incorporate limitations prohibiting these same operations in the contiguous U.S. airspace.

Interim Action

The FAA considers that this AD, if adopted as proposed, would be an interim action. Once the Technical Standard Order (TSO) standard for radio altimeters is established, which will follow the existing international technical consensus on the establishment of the minimum operational performance standards (MOPS), the FAA anticipates that the MOPS will be incorporated into the TSO. The FAA also anticipates that rotorcraft incorporating equipment approved under the new Radio Altimeter TSO will be able to operate in the contiguous U.S. airspace with no 5G C-Band-related RFM

limitations. Once a new radio altimeter TSO is developed, approved, and available, the FAA might consider additional rulemaking.

Costs of Compliance

The FAA estimates that this AD, if adopted as proposed, would affect 1,128 helicopters of U.S. registry. The FAA estimates the following costs to comply with this proposed AD.

Estimated costs				
Action	Labor cost	Parts cost	Cost per product	Cost on U.S. operators
RFM revision for non-radio altimeter tolerant rotorcraft (Retained action from AD 2021-23-13)	1 work-hour X \$85 per hour = \$85	\$0	\$85	\$95,880
New RFM revision for non-radio altimeter tolerant rotorcraft	1 work-hour X \$85 per hour = \$85	\$0	\$85	\$95,880

Authority for this Rulemaking

Title 49 of the United States Code specifies the FAA's authority to issue rules on aviation safety. Subtitle I, section 106, describes the authority of the FAA Administrator. Subtitle VII, Aviation Programs, describes in more detail the scope of the Agency's authority.

The FAA is issuing this rulemaking under the authority described in Subtitle VII, Part A, Subpart III, Section 44701: General requirements. Under that section, Congress charges the FAA with promoting safe flight of civil aircraft in air commerce by prescribing regulations for practices, methods, and procedures the Administrator finds

necessary for safety in air commerce. This regulation is within the scope of that authority because it addresses an unsafe condition that is likely to exist or develop on products identified in this rulemaking action.

Regulatory Findings

The FAA has determined that this proposed AD would not have federalism implications under Executive Order 13132. This proposed AD would not have a substantial direct effect on the States, on the relationship between the national Government and the States, or on the distribution of power and responsibilities among the various levels of government.

For the reasons discussed above, I certify that the proposed regulation:

- (1) Is not a “significant regulatory action” under Executive Order 12866,
- (2) Would not affect intrastate aviation in Alaska, and
- (3) Would not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act.

List of Subjects in 14 CFR Part 39

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

The Proposed Amendment

Accordingly, under the authority delegated to me by the Administrator, the FAA proposes to amend 14 CFR part 39 as follows:

PART 39 - AIRWORTHINESS DIRECTIVES

1. The authority citation for part 39 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701.

§ 39.13 [Amended]

2. The FAA amends § 39.13 by:

- a. Removing Airworthiness Directive (AD) 2021-23-13, Amendment 39-21811

(86 FR 69992, December 9, 2021), and

b. Adding the following new AD:

Various Helicopters: Docket No. FAA-2023-0668; Project Identifier
AD-2023-00199-R.

(a) Comments Due Date

The FAA must receive comments on this airworthiness directive (AD) by
[INSERT DATE 30 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL
REGISTER].

(b) Affected ADs

This AD replaces AD 2021-23-13, Amendment 39-21811 (86 FR 69992,
December 9, 2021) (AD 2021-23-13).

(c) Applicability

This AD applies to all helicopters, certificated in any category, equipped with a
radio (also known as radar) altimeter. These radio altimeters are installed on various
helicopter models including, but not limited to, the helicopters for which the design
approval holder is identified in paragraphs (c)(1) through (20) of this AD.

- (1) Airbus Helicopters
- (2) Airbus Helicopters Deutschland GmbH
- (3) Air Space Design and Manufacturing, LLC
- (4) Bell Textron Canada Limited
- (5) Bell Textron Inc.
- (6) Brantly International, Inc.
- (7) Centerpointe Aerospace Inc.
- (8) Columbia Helicopters, Inc.
- (9) The Enstrom Helicopter Corporation
- (10) Erickson Air-Crane Incorporated, DBA Erickson Air-Crane
- (11) Helicopteres Guimbal

- (12) Siam Hiller Holdings, Inc.
- (13) Kaman Aerospace Corporation
- (14) Leonardo S.p.a.
- (15) MD Helicopters Inc.
- (16) PZL Swidnik S.A.
- (17) Robinson Helicopter Company
- (18) Schweizer RSG LLC
- (19) Scotts-Bell 47 Inc.
- (20) Sikorsky Aircraft Corporation

(d) Subject

Air Transport Association (ATA) of America Code 3444, Ground Proximity System.

(e) Unsafe Condition

This AD was prompted by determination that radio altimeters cannot be relied upon to perform their intended function if they experience interference from wireless broadband operations in the 3.7-3.98 GHz frequency band (5G C-Band). The FAA is issuing this AD because radio altimeter anomalies that are undetected by the automation or pilot, particularly close to the ground, could lead to loss of continued safe flight and landing.

(f) Compliance

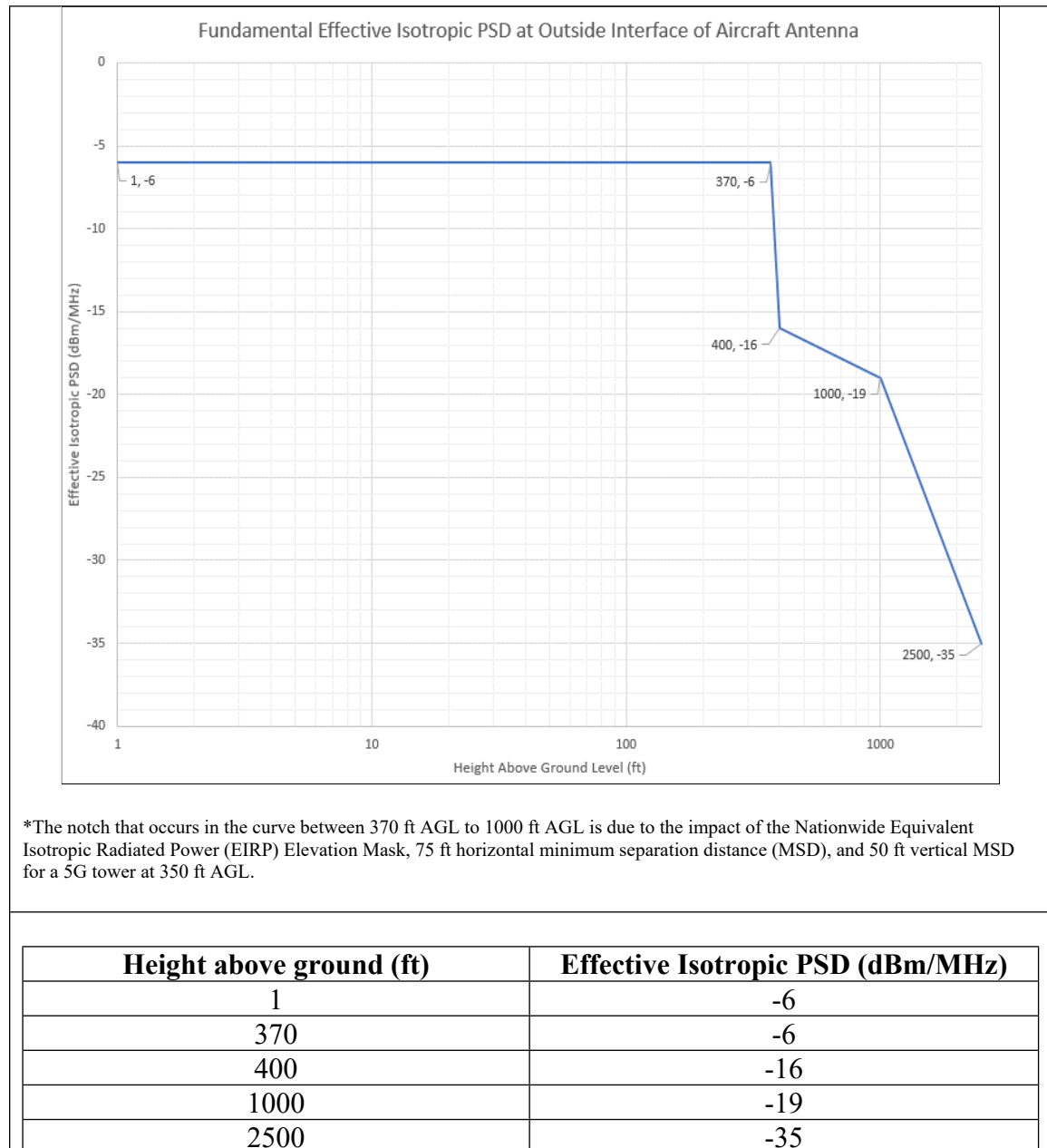
Comply with this AD within the compliance times specified, unless already done.

(g) Definitions

(1) For purposes of this AD, a “radio altimeter tolerant rotorcraft” is one for which the radio altimeter, as installed, demonstrates the tolerances specified in paragraphs (g)(1)(i) and (ii) of this AD, using a method approved by the FAA. No actions are required by this AD for radio altimeter tolerant rotorcraft.

- (i) Tolerance to radio altimeter interference at or above the power spectral density (PSD) curve threshold specified in figure 1 to paragraph (g)(1) of this AD.
- (ii) Tolerance to an aggregate base station conducted spurious emission level of -42 dBm/MHz in the 4200-4400 MHz radio altimeter band.

Figure 1 to paragraph (g)(1) – Effective Power Spectral Density



- (2) For purposes of this AD, a “non-radio altimeter tolerant rotorcraft” is one for which the radio altimeter, as installed, does not demonstrate the tolerances specified in paragraphs (g)(1)(i) and (ii) of this AD.

(h) Retained Rotorcraft Flight Manual (RFM) Revision for Non-Radio Altimeter Tolerant Rotorcraft

For non-radio altimeter tolerant rotorcraft: On or before January 4, 2022, revise the Limitations Section of the existing RFM for your helicopter by incorporating the limitations specified in figure 2 to paragraph (h) of this AD. This may be done by inserting a copy of this AD into the existing RFM for your helicopter. The action required by this paragraph may be performed by the owner/operator (pilot) holding at least a private pilot certificate and must be entered into the aircraft records showing compliance with this AD in accordance with 14 CFR 43.9(a)(1) through (4) and 14 CFR 91.417(a)(2)(v). The record must be maintained as required by 14 CFR 91.417 or 14 CFR 135.439.

Figure 2 to paragraph (h) – RFM Revision

Radio Altimeter Flight Restrictions	
(Required by AD 2021-23-13)	
When operating in U.S. airspace, the following operations requiring radio altimeter are prohibited in the presence of 5G C-Band wireless broadband interference as identified by NOTAM (NOTAMs will be issued to state the specific areas where the radio altimeter is unreliable due to the presence of 5G C-Band wireless broadband interference):	
<ul style="list-style-type: none">• Performing approaches that require radio altimeter minimums for rotorcraft offshore operations. Barometric minimums must be used for these operations instead.• Engaging hover autopilot modes that require radio altimeter data.• Engaging Search and Rescue (SAR) autopilot modes that require radio altimeter data.• Performing takeoffs and landings in accordance with any procedure (Category A, Category B, or by Performance Class in the Rotorcraft Flight Manual or Operations Specification) that requires the use of radio altimeter data.	

(i) RFM Revision for Non-Radio Altimeter Tolerant Rotorcraft

For non-radio altimeter tolerant rotorcraft, do the actions specified in paragraphs (i)(1) and (2) of this AD.

(1) On or before June 30, 2023, revise the Limitations Section of the existing RFM for your helicopter by including the information specified in figure 3 to paragraph (i) of this AD. This may be done by inserting a copy of this AD into the existing RFM for

your helicopter. The action required by this paragraph may be performed by the owner/operator (pilot) holding at least a private pilot certificate and must be entered into the aircraft records showing compliance with this AD in accordance with 14 CFR 43.9(a)(1) through (4) and 14 CFR 91.417(a)(2)(v). The record must be maintained as required by 14 CFR 91.417 or 14 CFR 135.439. Incorporating the RFM revision required by this paragraph terminates the RFM revision required by paragraph (h) of this AD.

(2) Before further flight after incorporating the limitations specified in figure 3 to paragraph (i) of this AD, remove the RFM revision required by paragraph (h) of this AD.

Figure 3 to paragraph (i) – RFM Revision for Non-Radio Altimeter Tolerant Rotorcraft

(Required by AD 20**-**-**)	
Radio Altimeter Flight Restrictions	
Due to the presence of 5G C-Band wireless broadband interference, when operating in the contiguous U.S. airspace, the following operations requiring radio altimeter are prohibited:	
<ul style="list-style-type: none">• Performing approaches that require radio altimeter minimums for rotorcraft offshore operations. Barometric minimums must be used for these operations instead.• Engaging hover autopilot modes that require radio altimeter data.• Engaging Search and Rescue (SAR) autopilot modes that require radio altimeter data.• Performing takeoffs and landings in accordance with any procedure (Category A, Category B, or by Performance Class in the Rotorcraft Flight Manual or Operations Specification) that requires the use of radio altimeter data.	

(j) Alternative Methods of Compliance (AMOCs)

(1) The Manager, Operational Safety Branch, FAA, has the authority to approve AMOCs for this AD, if requested using the procedures found in 14 CFR 39.19. In accordance with 14 CFR 39.19, send your request to your principal inspector or responsible Flight Standards Office, as appropriate. If sending information directly to the manager of the Operational Safety Branch, send it to the attention of the person identified in paragraph (k) of this AD. Information may be emailed to: AMOC@faa.gov.

(2) Before using any approved AMOC, notify your appropriate principal inspector, or lacking a principal inspector, the manager of the responsible Flight Standards Office.

(3) AMOCs approved for AD 2021-23-13 are approved as AMOCs for the requirements specified in paragraph (h) of this AD until June 30, 2023.

(k) Related Information

For more information about this AD, contact David Swartz, Continued Operational Safety Technical Advisor, COS Program Management Section, Operational Safety Branch, FAA, 222 W. 7th Ave, M/S #14 Anchorage, AK 99513; phone: 817-222-5390; email: operationalsafety@faa.gov.

(l) Material Incorporated by Reference

None.

Issued on April 5, 2023.

Christina Underwood, Acting Director,
Compliance & Airworthiness Division,
Aircraft Certification Service.

[FR Doc. 2023-07743 Filed: 4/10/2023 8:45 am; Publication Date: 4/12/2023]